

What is claimed is:

1. A method of cleaning a surface comprising the step of jetting against a surface to be cleaned, a cleaning fluid comprising a base fluid and degradable particles.
2. The method of claim 1 wherein the base fluid comprises an aqueous fluid.
3. The method of claim 1 wherein the base fluid comprises fresh water, salt water, brine, seawater, or a combination thereof.
4. The method of claim 1 wherein the degradable particle is a solid particle comprising a polymer.
5. The method of claim 1 wherein the degradable particle is a solid particle comprising a polysaccharide; a chitin; a chitosan; a protein; an aliphatic polyester; a poly(lactide); a poly(glycolide); a poly(ϵ -caprolactone); a poly(hydroxybutyrate); a poly(anhydride); an aliphatic polycarbonate; a poly(orthoester); a poly(amino acid); a poly(ethylene oxide); a polyphosphazene; a polyvinyl alcohol; poly ethylene oxide; poly(adipic anhydride); poly(suberic anhydride); poly(sebacic anhydride); poly(dodecanedioic anhydride); poly(maleic anhydride); poly(benzoic anhydride); or a combination thereof.
6. The method of claim 1 wherein the degradable particle is a solid particle comprising a dehydrated salt.
7. The method of claim 1 wherein the degradable particle is a solid particle comprising a solid anhydrous borate, anhydrous sodium tetraborate, anhydrous boric acid, or a combination thereof.
8. The method of claim 1 wherein the base fluid comprises a nonaqueous fluid.
9. The method of claim 8 wherein the nonaqueous base fluid comprises a mineral oil, a synthetic oil, an ester, or a combination thereof.
10. The method of claim 8 wherein the cleaning fluid further comprises a compound that will produce water upon degradation.
11. The method of claim 8 wherein the degradable particle further comprises a compound that will produce water upon degradation.
12. The method of claim 10 wherein the compound that will produce water upon degradation comprises a hydrate of an organic acid; a hydrate of an organic acid salt; a hydrate of an inorganic acid; a hydrate of an inorganic acid salt; a starch-based polymer; a cellulose-based hydrophilic polymer; or a combination thereof.

13. The method of claim 11 wherein the compound that will produce water upon degradation comprises a hydrate of an organic acid; a hydrate of an organic acid salt; a hydrate of an inorganic acid; a hydrate of an inorganic acid salt; a starch-based polymer; a cellulose-based hydrophilic polymer; or a combination thereof.

14. The method of claim 1 wherein the degradable particles have an average particle size of from about 400 mesh to about 8 mesh.

15. The method of claim 1 wherein the cleaning fluid is jetted at the surface to be cleaned at a jet pressure differential of below about 2,000 psi.

16. The method of claim 1 wherein the cleaning fluid is jetted at the surface to be cleaned at an angle from about 30 degrees to about 70 degrees relative to the surface to be cleaned.

17. The method of claim 1 wherein the cleaning fluid further comprises a scale inhibitor, a chelating agent, a corrosion inhibitor, a clay stabilizer, or a combination thereof.

18. The method of claim 1 wherein the cleaning fluid comprises from about 0.1 to about 1 pound of degradable particles per gallon of base fluid.

19. A method of cutting a surface comprising the step of jetting against a surface to be cut, a cutting fluid comprising a base fluid and degradable particles.
20. The method of claim 19 wherein the base fluid comprises an aqueous fluid.
21. The method of claim 19 wherein the base fluid comprises fresh water, salt water, brine, seawater, or a combination thereof.
22. The method of claim 19 wherein the degradable particle is a solid particle comprising a polymer.
23. The method of claim 19 wherein the degradable particle is a solid particle comprising a polysaccharide; a chitin; a chitosan; a protein; an aliphatic polyester; a poly(lactide); a poly(glycolide); a poly(ϵ -caprolactone); a poly(hydroxybutyrate); a poly(anhydride); an aliphatic polycarbonate; a poly(orthoester); a poly(amino acid); a poly(ethylene oxide); a polyphosphazene; a polyvinyl alcohol; poly ethylene oxide; poly(adipic anhydride); poly(suberic anhydride); poly(sebacic anhydride); poly(dodecanedioic anhydride); poly(maleic anhydride); poly(benzoic anhydride); or a combination thereof.
24. The method of claim 19 wherein the degradable particle is a solid particle comprising a dehydrated salt.
25. The method of claim 19 wherein the degradable particle is a solid particle comprising a solid anhydrous borate, anhydrous sodium tetraborate, anhydrous boric acid, or a combination thereof.
26. The method of claim 19 wherein the base fluid comprises a nonaqueous fluid.
27. The method of claim 24 wherein the nonaqueous base fluid comprises a mineral oil, a synthetic oil, an ester, or a combination thereof.
28. The method of claim 26 wherein the cleaning fluid further comprises a compound that will produce water upon degradation.
29. The method of claim 26 wherein the degradable particle further comprises a compound that will produce water upon degradation.
30. The method of claim 28 wherein the compound that will produce water upon degradation comprises a hydrate of an organic acid; a hydrate of an organic acid salt; a hydrate of an inorganic acid; a hydrate of an inorganic acid salt; a starch-based polymer; a cellulose-based hydrophilic polymer; or a combination thereof.

31. The method of claim 29 wherein the compound that will produce water upon degradation comprises a hydrate of an organic acid; a hydrate of an organic acid salt; a hydrate of an inorganic acid; a hydrate of an inorganic acid salt; a starch-based polymer; a cellulose-based hydrophilic polymer; or a combination thereof.

32. The method of claim 17 wherein the degradable particles have an average particle size of from about 400 mesh to about 8 mesh.

33. The method of claim 17 wherein the cutting fluid is jetted at the surface to be cleaned at a jet pressure differential of from about 1,500 psi to about 10,000 psi.

34. The method of claim 17 wherein the cutting fluid is jetted at the surface to be cleaned at an angle from about 70 degrees to about 90 degrees relative to the surface to be cut.

35. The method of claim 17 wherein the degradable particles further comprise a hardener.

36. The method of claim 35 wherein the hardener comprises colemanite, sodium borate, marble, magnesium oxide, or a combination thereof.

37. The method of claim 17 wherein the degradable particles are encapsulated in a hardener.

38. The method of claim 37 wherein the hardener comprises an epoxy, a ceramic, a cement, or a combination thereof.

39. The method of claim 17 wherein the cutting fluid comprises from about 0.1 to about 1 pound of degradable particles per gallon of base fluid.

40. A method of stimulating a formation comprising the step of jetting a cutting fluid comprising a base fluid and degradable particles against a surface in a subterranean formation so as to cut into the formation.

41. The method of claim 40 wherein the base fluid comprises an aqueous fluid.

42. The method of claim 40 wherein the base fluid comprises fresh water, salt water, brine, seawater, or a combination thereof.

43. The method of claim 40 wherein the degradable particle is a solid particle comprising a polymer.

44. The method of claim 40 wherein the degradable particle is a solid particle comprising a polysaccharide; a chitin; a chitosan; a protein; an aliphatic polyester; a poly(lactide); a poly(glycolide); a poly(ϵ -caprolactone); a poly(hydroxybutyrate); a poly(anhydride); an aliphatic polycarbonate; a poly(orthoester); a poly(amino acid); a poly(ethylene oxide); a polyphosphazene; a polyvinyl alcohol; poly ethylene oxide; poly(adipic anhydride); poly(suberic anhydride); poly(sebacic anhydride); poly(dodecanedioic anhydride); poly(maleic anhydride); poly(benzoic anhydride); or a combination thereof.

45. The method of claim 40 wherein the degradable particle is a solid particle comprising a dehydrated salt.

46. The method of claim 40 wherein the degradable particle is a solid particle comprising a solid anhydrous borate, anhydrous sodium tetraborate, anhydrous boric acid, or a combination thereof.

47. The method of claim 40 wherein the base fluid comprises a nonaqueous fluid.

48. The method of claim 47 wherein the nonaqueous base fluid comprises a mineral oil, a synthetic oil, an ester, or a combination thereof.

49. The method of claim 47 wherein the cleaning fluid further comprises a compound that will produce water upon degradation.

50. The method of claim 47 wherein the degradable particle further comprises a compound that will produce water upon degradation.

51. The method of claim 49 wherein the compound that will produce water upon degradation comprises a hydrate of an organic acid; a hydrate of an organic acid salt; a hydrate of an inorganic acid; a hydrate of an inorganic acid salt; a starch-based polymer; a cellulose-based hydrophilic polymer; or a combination thereof.

52. The method of claim 50 wherein the compound that will produce water upon degradation comprises a hydrate of an organic acid; a hydrate of an organic acid salt; a hydrate of an inorganic acid; a hydrate of an inorganic acid salt; a starch-based polymer; a cellulose-based hydrophilic polymer; or a combination thereof.

53. The method of claim 40 wherein the degradable particles have an average particle size of from about 400 mesh to about 8 mesh.

54. The method of claim 40 wherein the cutting fluid is jetted at the surface to be cleaned at a jet pressure differential of from about 1,500 psi to about 10,000 psi.

55. The method of claim 40 wherein the cutting fluid is jetted at the surface to be cleaned at an angle from about 70 degrees to about 90 degrees relative to the surface to be cut.

56. The method of claim 40 wherein the degradable particles further comprise a hardener.

57. The method of claim 56 wherein the hardener comprises colemanite, sodium borate, marble, magnesium oxide, or a combination thereof.

58. The method of claim 40 wherein the degradable particles are encapsulated in hardener.

59. The method of claim 58 wherein the hardener comprises an epoxy, a ceramic, a cement, or a combination thereof.